

ABSTRACT OF THE DISCLOSURE

The invention provides an aqueous dispersion for chemical mechanical polishing that can limit scratches of a specific size to a specific number, even with interlayer insulating films with small elastic moduli (silsesquioxane, fluorine-containing SiO_2 , polyimide-based resins, and the like.). When using the aqueous dispersion for chemical mechanical polishing of an interlayer insulating film with an elastic modulus of no greater than 20 GPa as measured by the nanoindentation method, the number of scratches with a maximum length of 1 μm or greater is an average of no more than 5 per unit area of 0.01 mm^2 of the polishing surface. An aqueous dispersion for CMP or an aqueous dispersion for interlayer insulating film CMP according to another aspect of the invention contains a scratch inhibitor agent and an abrasive. The scratch inhibitor may be biphenol, bipyridyl, 2-vinylpyridine, salicylaldehyde, o-phenylenediamine, catechol, 7-hydroxy-5-methyl-1,3,4-triazaindolizine, and the like. The abrasive may consist of inorganic particles, organic particles or organic/inorganic composite particles. The organic/inorganic composite particles may be formed by polycondensation of an alkoxysilane, aluminum alkoxide, titanium alkoxide, and the like in the presence of polymer

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particles of polystyrene or the like, and bonding of polysiloxane, and the like. on at least the surface of the polymer particles.